

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 0000055447	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. PCT/EP2005/002735	International filing date ( <i>day/month/year</i> ) 15 March 2005 (15.03.2005)	Priority date ( <i>day/month/year</i> ) 17 March 2004 (17.03.2004)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant BASF Plant Science GmbH			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
2. This REPORT consists of a total of 6 sheets, including this cover sheet.  
  
In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 338 82 70	Date of issuance of this report 19 September 2006 (19.09.2006)  Authorized officer  <p style="text-align: center; font-weight: bold;">Agnes Wittmann-Regis</p> e-mail: pt06@wipo.int
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# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

REC'D 15 JUN 2005

PCT

To:

see form PCT/ISA/220

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/EP2005/002735

International filing date (day/month/year)  
15.03.2005

Priority date (day/month/year)  
17.03.2004

International Patent Classification (IPC) or both national classification and IPC  
C12N15/82

Applicant  
BASF PLANT SCIENCE GMBH

### 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized Officer

Kania, T

Telephone No. +49 89 2399-7703



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/EP2005/002735

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☒ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☒ in written format
    - ☒ in computer readable form
  - c. time of filing/furnishing:
    - ☒ contained in the international application as filed.
    - ☒ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/EP2005/002735

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1-6
	No: Claims	7-9
Inventive step (IS)	Yes: Claims	
	No: Claims	1-6
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

The present written opinion refers to the following documents cited in the search report:

- D1: WO 03/072792 A (HADFIELD STEPHEN THOMAS ; HAWKES TIMOTHY ROBERT (GB); THOMPSON PAUL AN) 4 September 2003 (2003-09-04)  
D2: WO 03/060133 A (SWETREE TECHNOLOGIES AB ; ERIKSON OSKAR (SE); NAESHOLM TORGNY (SE); HE) 24 July 2003 (2003-07-24)  
D3: WO 00/37060 A (ARNISON P G ; FABIJANSKI S F (CA); KELLER W A (CA); CANADA NAT. RES COU) 29 June 2000 (2000-06-29)

### Subject-matter of the application

The present application relates to a method for preventing growth of transgenic plants on a field in a subsequent generation by provision of D-amino acid substrates used as herbicides. Transgenic plants express D-amino acid oxidase (DAAO, DAO, DAMOX) which is able to transform the non-toxic substrate, e.g. D-isoleucine or D-valine, into toxic metabolites. Wild-type plants not expressing the DAO are not affected and survive. The method may be used for post-harvest control.

### Re Item V: Novelty and Inventive step

1. Present claims 7 and 8 relate to a herbicide composition. The composition is characterized in that it comprises a compound which comprises a D-amino acid structure. In claim 8 said structure is more closely defined as D-isoleucine or D-valine and derivatives thereof.

Either of D1 and D2 disclose D-amino acids and their use as toxic substances. In D2, D-isoleucine and D-valine are particularly mentioned to exert a herbicidal effect.

In consequence, claims 7 and 8 are **not novel (Article 33(2) PCT)**.

2. The use of the said compound to prevent or suppress unwanted growth of transgenic plants is disclosed in D2 (see in particular pages 26/27).

Thus, claim 9 is **not novel (Article 33(2) PCT)**.

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/EP2005/002735

3. D3 discloses the employment of tumor-marker genes to identify and remove unwanted transgenic plants from other plant populations. D3 addresses the same technical problem as the present application.
- D2 explicitly suggests the use of D-amino acids in combination with the recombinant expression of D-amino acid oxidase in transgenic plants for use to remove unwanted transgenic plants.
- In the light of D3 showing the awareness in the art of the present problem and presenting one solution to this problem, the skilled man confronted with said problem would combine the teaching of D2, which provides an incentive to employ the present system for the removal of transgenic plants, with the teaching of D3 in an obvious way and with a reasonable expectation of success.

Present claims 1-6 are consequently regarded as **not inventive (Article 33(3) PCT)**.